

IEEE Kerala Section Events

IEEE TENCON-2019

IEEE TENCON 2019, the Flagship conference of IEEE Region 10 was held during 17th to 20th October 2019 at Grand Hyatt Kochi Bolgatti, Kerala, India. The Theme for TENCON 2019 was **Technology, Knowledge, and Society**. TENCON 2019 at God's Own Country brought together researchers, educators, students, practitioners, technocrats and policymakers from across academia, government, industry and non- governmental organizations to discuss, share and promote current works and recent accomplishments across all aspects of its theme.

Tutorial

The four day TENCON 2019 started with 5 pre conference tutorials on 17th Oct 2019. Of this, three were academic tutorials and two were industry sponsored tutorials. The topics varied from machine learning to hardware security to system design.

1. Physically Unclonable Functions: Design, Applications & Threats by Dr. Rajat Subhra Chakraborty (IIT Kharagpur), Dr. Jimson Mathew (IIT Patna), Pranesh Santikellur (IIT Kharagpur)
2. Preparing Students for 21st Century System Design Challenges & Solutions using NI Platform by Visweswaran Jagadeesan and Nilutpal Choudhury (National Instruments)
3. When IoT Meets Machine Learning: Opportunities and Challenges by Sanjay Srivastava (Dhirubhai Ambani Institute of Information and Communication Technology) and Manish Chaturvedi (Pandit Deendayal Petroleum University (PDPU), Gandhinagar)
4. Deep Learning with MATLAB by Amit Kamath (Mathworks)
5. Malware Analysis by Hemant Rathore (Birla Institute of Technology and Science, Pilani, K K Birla Goa Campus) and Ashu sharma (Mindtree)

Each tutorial was a three hour session with some hands on exercises. Tutorial speakers engaged the audience and entertained questions post tutorial session as well. Each tutorial session ended with a thanking of the speakers and a memento presentation for their invaluable contribution to TENCON 2019.

Inauguration - TENCON 2019



IEEE TENCON 2019, the 4-day International conference of IEEE Region 10, was inaugurated by Hon Governor of Kerala **Shri. Arif Mohammed Khan** on Friday, 18th October at 10am. Dr.Akinori Nishihara, Director, IEEE Region 10

presided the function. Dr. Suresh Nair, General Chair, TENCON, welcomed the gathering. **Dr Suresh Nair**, emphasized the work of IEEE Kerala Section volunteers during the Kerala Floods 2018 .



Kerala Governor Arif Mohammed Khan in his inaugural address called upon technocrats and scientists to develop environment and people friendly technologies that are available and affordable to the common man. The new technologies must be in synergy with the goal of sustainable development and clean and healthy future. Underlining the profound effect of technology in all aspects of human life, he said that development and use of technology has to be rooted in moral commitment. From the social point of view, technology has to be guided by a level of moral and entrepreneurial thinking. He also added that such moral commitment is evident from the theme of the conference, ‘Technology, Knowledge and Society’. Dr. Nishihara applauded the efforts of IEEE Kerala Section and congratulated for the awards they received as token of appreciation. Stephen Welby, Executive Director and COO, IEEE, offered his felicitation. Dr. Sameer S M, Chair Kerala Section proposed the vote of thanks for the inaugural function.

Technical Program committee under Prof. Lillykutty Jacob reviewed a total of 1402 papers from 25 Countries, for the 10 regular tracks and 25 special sessions. After three rounds of blind review process, track chairs and the special session chairs selected 687 papers. The acceptance ratio was 53%. From the accepted papers, we got 504 registrations and 502 oral presentations. The papers were presented during three days distributed under the following tracks:

- Track 1: Data Science & Engineering
- Track 2: Computing Technologies
- Track 3: Computational Intelligence
- Track 4: Communication & Networking
- Track 5: Signal & Image Processing
- Track 6: RF Circuits, Systems and Antennas
- Track 7: Devices, Circuits, Materials and Processing
- Track 8: Power, Energy and Power Electronics
- Track 9: Robotics, Control, Instrumentation and Automation
- Track 10: Biomedical Engineering and Healthcare Technologies

Mr. Tony Thomas, CVP and CIO Nissan Motor Corporation, Dejan Milojicic, distinguished technologist from Hewlette Packard, John-Hwan Kim, Professor, School of Electrical Engineering, KAIST, Vinod A Prasad, Professor, IIT, Palakkad, V John Mathews, Professor, School of Electrical Engineering and Computer Science , Oregon State University, USA and Bruno Grippay, Regional Director, Connected Cars and Intelligent Mobility-Nissan delivered Keynote addresses. The five topics of Keynote address are Deep learning, Machine Intelligence learning for Agent-embedded Robots, Brain Machine Interface System, Neural Prosthesis for Amputees and Spinal injury Patients and Connected Cars in Mobility Revolution.

The conference brought together Researchers, Faculty, Young software developers, Students, professionals, technocrats, policy makers, Government departments, industrialists, governmental and nongovernmental organizations for discussions and facilitated learning of the most advanced technologies applied in various fields of activities.

SPECIAL INDUSTRIES TRACK

The Special Industries Track started with the session chaired by Dr. Chris Gwo Giun Lee, the chair of R10 Industry Relations Committee. The First Key-note Speaker of the day was Mr. Jaswinder Ahuja, the Managing Director of Cadence India, who spoke on the Intelligent System Design. This was followed by another Keynote by Dr. Gopal Pingali Vice President of IBM India.

The Second Session was chaired by Dr. Nirmal Nair, Associate Professor, University of Auckland. The first speaker, Dr. Amit Kumar, the CEO of BioAxis spoke on the dangers of a possible Bio-Hacking, where criminals can hack into the DNA, producing unknown misery to humans, including spoofing, and bio-identity threats! The next speaker was Dr. Kush Agarwal from Singapore who examined the approaches used for evaluating and testing structures using radar and millimeter wave technologies.

The Afternoon Session was chaired by Mr. Harish Mysore the head of IEEE India Office. This session saw many aspects of the progress in e-Mobility. The first speaker Mr. Allabaksh Naikodi, who is heading the pioneers in Electric Vehicles in India, Mahindra Electric. The next speaker, Dr VV Chandrasekar, CDAC and Dr. Ananth Krishna spoke on the current and future directions of Electric Batteries.

After this was the much-awaited session run by Nissan Digital on Cyber Security. The panel was moderated by Tarun Kumar, the Chief Information Security Officer of Nissan Digital India. Atul Gupta from KPMG, Rohit Anand from Tanisi and Vikas Kapoor from Vodaphone participated in the lively panel discussion on Cyber Threat faced by the world.

The last session was a panel discussion on Industries and entrepreneurship moderated by Sarada Jayakrishnan, DGM Terumo Penpol and Vice-Chairperson, IEEE Kerala Section. Participants of this interesting panel were Jijo G John, CEO Calpine Group, Infopark Kochi, Kush Agarwal, CEO, Wavescan, Singapore and Shalini James, Mantra, Kochi. All the panellists successfully running their own business enterprises in India and Singapore shared their experiences and challenges of starting an industry unit and successfully running it. Many young participants in the audience had interesting queries which also led to some good discussions on being constantly innovative in providing solutions to customers, taking calculated risks and being agile to handle the changing market conditions

For the participants of Special Industries Track, a tour to the Maker village was organized on Sunday, October 20. Around 25 people including Dr.Takako Hashimoto, Dr. Nirmal Nair, Dr. Kush Agarwal and a set of student delegates from Japan were part of the visit. Mr. Prasad Balakrishnan, CEO of Maker Village gave a detailed presentation about the facilities and services provided for electronics start-ups for productising their ideas. Around 30 participating companies were also present to demonstrate their products to the IEEE delegation.

HAC (Humanitarian Activity Committee) Track

IEEE TENCON 2019 provided a special platform, the Humanitarian Activities Track, for discussing Humanitarian Activities within the context of IEEE. The track, sponsored by IEEE Humanitarian Activities Committee (IEEE HAC) and TENCON 2019, provided opportunities for experts, practitioners, IEEE members, Students, Young Professionals, NGOs and community representatives to share their experiences and discuss the challenges and opportunities in the domain of humanitarian activities. This one-day track, scheduled for 20 October, was open to all registered participants of TENCON 2019 and it was also possible to separately register and attend this track. The track organizers included officials from SIGHT Kerala Section and present and past members of IEEE HAC committee.

The track was scheduled in two sessions with Invited Talks and Panel Discussions, in addition to presentations of shortlisted papers that were short-listed. The forenoon session on 'Making Science Accessible to Students with Disabilities' started with a keynote talk by Prof Volker Sorge of the University of Birmingham, who covered the topic of "Accessible Science in the age of the open web". He discussed the chances offered by employing open standards and as well as open-source tools to make STEM content accessible for the web. He illustrated his points with particular examples from Mathematics and Data Science, concentrating on accessible equations and data visualisations.

After the talk, Prof VK Damodaran led a panel discussion on Science Accessible to Students with Disabilities. The panelists were Prof Volker Sorge, Mr Ramkamal from Chakshumathi and Dr KG Satheesh Kumar from the National Institute of Speech and Hearing (NISH). After the Panel, there was a Paper Session with four papers. The Session was Chaired by Dr. Akila Surendran and had papers relating to 'User-Centric Assistive Technologies'.

The afternoon session started with a presentation on the Social Return on Investment and a Project - Techno Unati, which was one of the initial places that IEEE HAC was testing it out. The session was chaired by Satish Babu and the speakers included Prof. VK Damodaran a life member from Kerala Section along with Dr. Mini Ulanat and Dr. Bijoy Jose of CUSAT

The second session in the afternoon was a panel discussion on “The role of Technology in Disaster Management”. The panel was moderated by Satish Babu and had very notable participants in the Disaster Management Sector. Dr. Sekhar Lukose Kuriakose from the Kerala State Disaster Management Association led the panellists and described how the Kerala Government was managing the recent disasters with the application of the best technology available. The others who spoke included Ms. Annie George, Dr. Joe John George, from the UNDP, Mr. Viekanandan from FishMARC, Vincent Jain from SIFFS, Sajith Sukumaran from Kudumbashree NRO, Dr. Arun Timalisina from TU Nepal and Mr. KG Girish Babu.

After the session on Disaster Management, we had a good session from Dr. Hussain Mehdi, IEEE Malaysia and Dr. Chanakya Kumar, Pune Section IEEE, who outlined the work of HAC and SIGHT and spoke of how to participate in the activities and the sources of funding for the same. The Session was chaired by Amarnath Raja.

The final session was a paper presentation session which was chaired by Dr. KG Satheesh Kumar of National Institute of Speech and Hearing (NISH) with the Theme of “Humanitarian Technologies for Sustainable Development”.

WiE (Women in Engineering) Track

The WiE Track showcased the capabilities of two women steering the wheel of technology in two different ways. WIE track on 19th was planned with two sessions. Ms. Mary Ellen Randal, Fellow, IEEE took us through her career advancement and IEEE role progression. She gave a detailed picture on the challenges faced and how she overcame it. She started with her early influences, took us through her IEEE life and how MOVE was conceptualised. She concluded with a famous quote of Maya Angelou that *I've learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel.*

Ms. Prema Sankar, an Engineer by education turned wellness expert took a workshop on "Meet Your Future Self" . She is a self taught healer who helps in finding clarity, attain inner peace and increase one's well being. The participants felt energized, fresh and motivated. She made things so simple, light and fun.

2019 IEEE Recent Advances in Geoscience and Remote Sensing: Technologies Standards and Applications (TENGARSS 2019)

In Association with the IEEE Geoscience and Remote Sensing Society, IEEE Antennas and Propagation Society and IEEE Kerala Section organised 2019 IEEE Geoscience and Remote Sensing Conference (TENGARSS 2019), a premier Geoscience and Remote Sensing Conference as a colocated event during October 17th through 20th October 20th 2019 at the Hotel Grand Hyatt, Kochi, Kerala India. The main theme of the conference was advancing Technologies, Standards and Applications in Geoscience and Remote Sensing. TENGARSS-2019 was an unique initiative of IEEE GRSS society and IEEE APS Kerala chapter to bring the academicians and researchers working in the area of Geoscience and Remote Sensing to bring under a common platform. The conferences had submissions and presentations in all areas of Geoscience and Remote Sensing pertaining to Earth System including data analytics, Big data, Technologies, Calibration, Standards and Applications.

Conference Banquet

The conference banquet was organised on the evening on 18th October 2019. The banquet was organised in conjunction with a cultural event on stage where various traditional art forms of India, including Bharatanatyam, Kuchipudi, Kerala Natanam, much to the delight of the visiting guests. There was music fusion jugalbandhi also arranged. The banquet menu received glowing feedback from the guests

Conclusion

After the four hectic days of conference activities, there was a very informal concluding valedictory function. Dr. Suresh Nair, the General chair and Dr. Sameer, the co-chair expressed their gratitude and satisfaction in conducting such a mega event in a befitting manner without any flaws from any side. The volunteers and all the stake holders were gratefully remembered and appreciated for their efforts. Feedback remarks from the participants gave rave reviews to the organisers and volunteers appreciating the smooth functioning from registration onwards and the excellent hospitality of the event. The organisers thanked the gracious support of sponsors for making this event a success to this level. Media also supported very well with good coverage in both National dailies as well as local media



Team TENCON-2019 with guests

For more photos of the TENCON-2019, pl. visit

<https://drive.google.com/drive/folders/11XST0xJ9tepFHZKnPUBzOpm-VDQ-Am6M>

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with inputs from chairs of respective tracks.*

Top Ten Energy Leaks

10. *Alcohol.* Alcohol is an extreme carbohydrate and contains a lot of calories. It's also a depressant, a diuretic, increases appetite, slows metabolism, and can damage the organs.

9. *Caffeine.* Don't panic; you can still have your coffee as long as you limit yourself to a cup or two per day. Caffeine is a diuretic. It also stimulates the pancreas to produce insulin, a hormone that regulates blood sugar. When too much insulin is released at once, the body's blood-sugar level plunges rapidly, resulting in cravings.

8. *Irregular sleep,* whether too much or too little. Aim for between seven and nine and a half hours of quality sleep each night. Go to bed and wake up at consistent times each day.

7. *Ineffective exercise.* Whether you exercise inconsistently or not at all, you're not giving your body the workout it needs. Another pitfall for some people is overexercising and undereating. Find the right balance.

6. *Eating just three times per day.* Forget the old paradigm of three large meals. Eating smaller amounts five or six times a day prevents bingeing, stabilizes blood sugar, and cranks up your metabolism.

5. *Skipping breakfast.* Breakfast is the most strategic meal of the day, and skipping it is devastating to your energy for the rest of the day. From an energy standpoint, you cannot recover if you blow off breakfast.

4. *Boredom.* This is the opposite of passion and can occur when you feel in a rut in your career, your marriage, or your faith. If you're felling bored, look for a creative new approach.

3. *Overeating.* Large meals overburden your digestive system, stealing energy from goal-directed activity. Even overeating healthy foods causes excess insulin production, encouraging fat storage and leaving you feeling sluggish.

2. *Dehydration.* Your body is more than two-thirds water, and your brain is 85 percent water. Even if you're just one percent dehydrated, your energy level drops off.

1. *Negativity.* Harboring unhealthy emotions like fear, anger, worry, and guilt—or any sort of “stinking thinking”—will drain your energy. If you're going to plug any of these leaks, plug this one first. Before you can strengthen your body, you must strengthen your mind. Every thought and feeling has an energy consequence.

And, of course, smoking, which is outrageously obvious and offensive to your energy goals.